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PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF AGRICULTURE

(LIVE STOCK BRANCH)

# GOAT-RAISING IN B.C.

## BULLETIN No. 64

(SECOND EDITION)

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1918.

DEPARTMENT OF AGRICULTURE,

VICTORIA, B.C., April, 1918.

*To His Honour Sir* FRANK STILLMAN BARNARD, K.C.M.G.,

*Lieutenant-Governor of the Province of British Columbia.*

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit herewith for your consideration Bulletin No. 64, "Goat-raising in British Columbia," prepared by George Pilmer, Secretary, Live Stock Branch, under the direction of Wm. E. Scott, Deputy Minister of Agriculture.

I have the honour to be,

Sir,

Your obedient servant,

E. D. BARROW,

*Minister of Agriculture.*

DEPARTMENT OF AGRICULTURE,

VICTORIA, B.C., April, 1918.

*Hon. E. D. Barrow,*

*Minister of Agriculture, Victoria, B.C.*

SIR,—I have the honour to submit herewith for your approval Bulletin No. 64, entitled "Goat-raising in British Columbia," which has been compiled by George Pilmer, Secretary, Live Stock Branch.

I have the honour to be,

Sir,

Your obedient servant,

WM. E. SCOTT,

*Deputy Minister of Agriculture.*

# PROVINCE OF BRITISH COLUMBIA.

## DEPARTMENT OF AGRICULTURE (LIVE STOCK BRANCH).

HON. E. D. BARROW,
*Minister of Agriculture.*

WM. E. SCOTT,
*Deputy Minister of Agriculture.*

W. T. McDONALD, B.S.A., M.S.A.,
*Live Stock Commissioner.*

* H. RIVE, B.S.A.,
*Chief Dairy Instructor.*

T. A. F. WIANCKO,
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*Chief Poultry Instructor.*

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*Veterinary Inspector.*

W. W. ALTON, V.S.,
*Veterinary Inspector.*

B. R. ILSLEY, V.S.,
*Veterinary Inspector.*

WM. J. BONAVIA,
*Secretary to the Department.*

* Granted leave of absence for overseas service.

# GOAT-RAISING IN BRITISH COLUMBIA.

SINCE the first issue of Bulletin No. 64, "Angora and Milch Goats," in [illegible] keen interest in the milk goat has been shown by the general public, particularly by suburban dwellers, small holders and ranchers in outlying districts, and the industry has shown satisfactory development. People are beginning to realize that there is a place for the milk goat in British Columbia, and that as a provider of cheap and wholesome milk for the family she is hard to beat.

Unfortunately, the supply is not nearly equal to the demand, and in consequence high prices prevail, and will do so for some time. Prospective buyers should not be deterred, however, by the apparent high cost, because the subsequent expense of feed is only nominal. It is possible that after the war we may be able to import goats from Europe to help supply the undoubted need for them.

Though there are only about a thousand milk goats in the Province at the present time, the number is rapidly increasing, and it may safely be said that they have come to stay. British Columbia is an ideal country for goats, and there is no reason why the milk-goat industry should not rival that of Switzerland and Germany, which before the war produced between them annually nearly $60,000,000 of milk-goat products.

As an indication of the interest being taken in the goat industry may be mentioned the formation of the British Columbia Goat-breeders' Association early in 1917; this association at the end of its first year had a membership of 176. There has also been incorporated the Canadian Goat Society, which, together with the Canadian National Live Stock Records Board at Ottawa, has initiated registration of pedigrees for goats, thus putting them on a par with other classes of live stock in this respect. The office of both of these associations is at Victoria, B.C.

It has been considered advisable, in reissuing this bulletin to take the opportunity of revising and rearranging it, and we hope that it will prove of service to those interested in the genus *Capri*.

## BREEDS OF MILK GOATS.

The principal breeds of milk goats are the Swiss breeds (Toggenburg, Saanen, Alpine, etc.), Anglo-Nubian, and Mediterranean goats. In order to put matters on a simple and satisfactory basis, however, and to avoid confusion by a multiplicity of breeds and types, it was considered advisable to limit the registration of pedigrees in Canada to the three main breeds, Toggenburg, Saanen, and Nubian. These are the breeds most readily available and show enough quality and variation in type to meet all reasonable requirements.

The Toggenburg goat, which takes its name from the Toggenburg Valley in Switzerland, where it originated, rather resembles a deer in [illegible]ert expression and active temperament, but is at the same time most docile; the [illegible]ur markings of the Toggenburg have been so long established that they are a dominant characteristic of the breed, and grade Toggenburgs exhibit them in a marked degree, so much so that they may easily be taken for pure-bred. The standard given below will indicate the desired type of the Toggenburg breed.

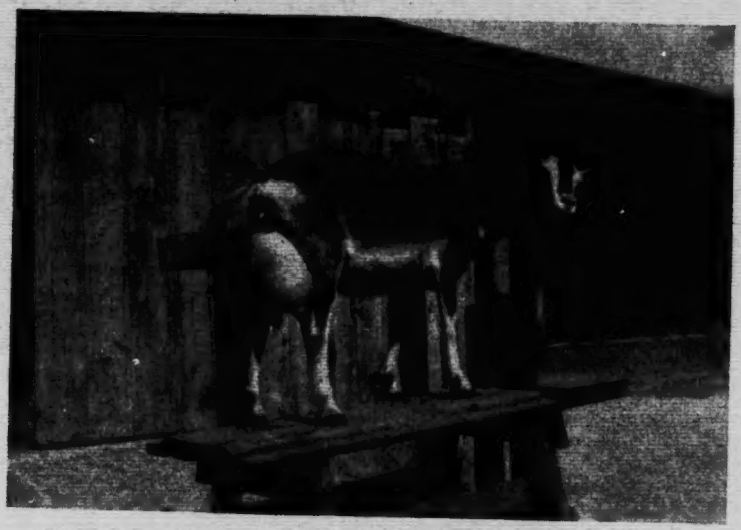
Saanen goats likewise took their name from their place of origin, and are somewhat similar to the Toggenburg, though possibly larger and with a longer and stronger head. (See standard for further particulars.)

Both these breeds are consistently heavy milkers, yields of as high as 6 quarts daily when fresh being fairly common. The stock on this continent, however, is of a lower average, but any goat of these breeds giving less than 3 quarts is not worthy of its name.

The Nubian (really the Anglo-Nubian, as we know it) is the product of crossing between goats imported from Asia into England and the native English goat. They are large goats of entirely different build from the Swiss breeds, their chief characteristics being the Roman nose and long pendulous ears. Though these goats in India are known to yield 8 and 10 quarts daily, in this country they have not equalled the Swiss breeds on the average; their handsome appearance with their varied colouring and short coats makes them great favourites.

## FOUNDATION STOCK.

In addition to providing classes for registration of the above three breeds, a class was also made for Nubian, Saanen, or Toggenburg goats already in Canada, provided they were inspected by a representative of the Dominion Live Stock Commissioner before the end of 1917. This class was provided to take care of the many good goats already in the country which were not registered, but which were considered worthy of being registered, either on account of their good milking qualities or of their suitability as breeding animals. The inspection was carried out by J. K. King, of the Sheep and Goat Division at Ottawa, and resulted in about



High-class grade Toggenburg, with daily yield at first kidding of 1 gallon (American). Courtesy Winthrow Howland. Another of Mr. Howland's Toggenburg does, "Fanette," has made a record of 2,680 lb. milk in one year. Since going to press, "California Gretel," a Toggenburg doe of Mr. Howland's strain at the University of California, has made the splendid official record of 2,941½ lb. milk in 365 days.

200 goats being passed as worthy of registration. The animals thus passed will form a valuable foundation from which Canadian breeders will be able to breed up, and the progeny of these goats when bred to pure-bred bucks will be duly registered. Foundation-stock goats are distinguished by the metal tag in their left ears, with the letters F.S. before the numbers. It should be distinctly understood that the foundation-stock class was limited to those animals inspected by Mr. King before the end of 1917, and that no other animals will be recorded in this class.

## TENTATIVE STANDARDS.

The following standards of excellence are put forward in a purely tentative form to give breeders some idea of the desired type and as a basis for more definite and exact standards which will be drawn up when more experience has been gained from breeding in this country:—

## SAANEN GOATS.

*Standard of Excellence for Pure-bred Saanen Goats.*

Points.

(1.) *Type and General Appearance* ..... 20

An alert, attractive, and stylish appearance, showing at a glance the true characteristics of the Saanen.

(2.) *Quality, Form, and Constitution* ..... 35

*Quality:* Hair, soft; skin, mellow, loose, medium thickness; bone, clean, fine.

*Head:* To impress at once the Saanen characteristics.

*Head of Bucks:* To be masculine, rather short, and compact; ears erect; hornless.

*Neck of Bucks:* Free from loose skin, muscular, and short; wattle on each side of neck near throat.

*Head of Does:* Feminine in appearance, but not delicate; medium long; cheeks almost flat; ears erect; hornless.

*Neck of Does:* Free from loose skin; medium in length, but not delicate; wattle on each side of throat.

Saanen doe, "Joybell," with daily yield of 7 quarts (Amer.). Courtesy of R. R. Glahn and "Angora Journal."

*Body:* Well proportioned, with shoulders so placed as to give a deep wide chest and full heart-girth; strong straight back; ribs well sprung, wide apart; hips wide apart and level; rump, long, wide; pin-bones, wide apart, high.

*Legs:* Clean and strong; upright pasterns.

*Size:* When fully mature and in good breeding condition, bucks should weigh not less than 140 to 180 lb.; does, 100 to 150 lb.

(3.) *Udder* ..... 25

Attached, high and full behind, extending far in front and full; flexible; halves even and free from fleshiness; teats large and evenly placed; milk-veins, large, long, tortuous; large milk-wells.

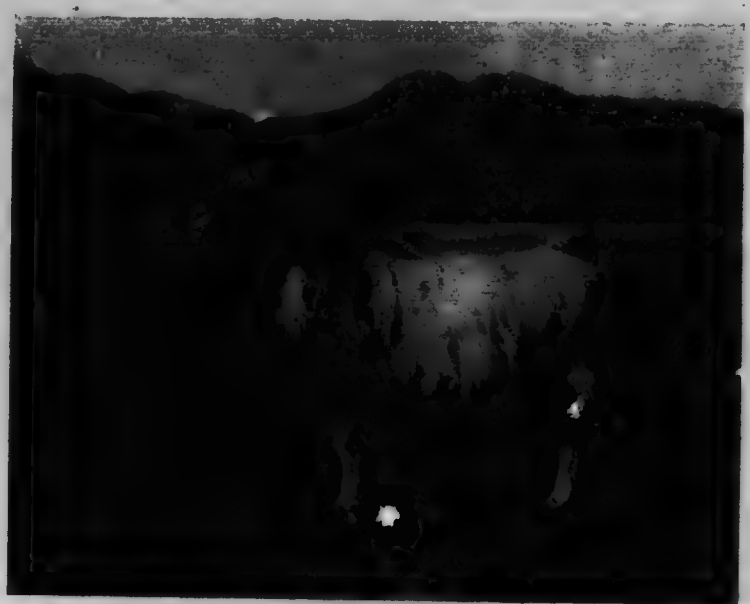
| | Points. |
|---|---|
| (4.) *Marking and Skin* | 20 |
| *Colour:* Pure white throughout. | |
| *Hair:* Thin, silky, and short; heavier and longer on bucks. | |
| *Skin:* Rich flesh colour, free from dark spots. | |
| Total score | 100 |

*Disqualifications:* Such lack of type as to render it doubtful to a breeder what the breed is.

### TOGGENBURG GOATS.

*Standard of Excellence for Pure-bred Toggenburg Goats.*

| | Points. |
|---|---|
| (1.) *Type and General Appearance* | 20 |
| An alert, attractive, and stylish appearance, showing at a glance the true characteristics of the Toggenburg. | |
| (2.) *Quality, Form, and Constitution* | 35 |
| *Quality:* Hair, soft, fine; skin, mellow, loose, medium thickness; bone, clean. | |
| *Head:* To impress at once the Toggenburg characteristics. | |



Imported Toggenburg buck "Prince Bismarck." Courtesy Winthrop Howland.

*Head of Bucks:* Masculine, as indicated by a broad nostril; broad between ears; eyes, ears, medium size, erect; horniess.

*Neck of Bucks:* Muscular, fitting into shoulders smoothly; free from loose skin; wattle on each side of neck.

*Head of Does:* To be feminine in appearance, but not delicate; medium in length.

*Neck of Does:* Not so muscular as in the case of bucks; wattle on each side of neck.

*Body:* Well proportioned, with shoulders so placed as to give a deep wide chest and full heart-girth; strong straight

Points.

back; ribs well sprung and wide apart; hips wide apart and level; rump, long, wide; pin-bones, high, wide apart.

*Legs:* Clean, strong; upright pasterns.

*Size:* When fully mature and in good breeding condition, bucks should weigh not less than 180 to 190 lb.; does, 100 to 130 lb.

(3.) *Udder* ..... 35

Attached, high and full behind, extending far in front and full; flexible; halves even and free from fleshiness; teats, large, evenly placed; milk-veins, large, long, tortuous; large milk-wells.

(4.) *Marking and Skin* ..... 20

*Colour of Coat:* From light fawn to dark brown, free from white spots except as stated. The white markings which must appear are as follows: A white stripe on each side of face from just below the ears down to the muzzle, but should not include the muzzle or ears; white along each side under the tail and the under body; on the legs between the thighs and down to the hooves; knee-caps and front of legs may show a darker striping.

*Hair:* Fine, medium in thickness and length; coarser and longer along spine and thighs. Bucks carry a heavy beard, also a tuft of hair between ears.

*Skin:* Clean and bright.

Total score ..... 100

*Disqualifications:* Such lack of type as to render it doubtful to a breeder what the breed is.

### NUBIAN GOATS.

*Standard of Excellence for Pure-bred Nubian Goats.*

Points.

(1.) *Type and General Appearance* ..... 20

An alert, attractive, and stylish appearance, showing at a glance the true characteristics of the Nubian.

(2.) *Quality, Form, and Constitution* ..... 35

*Quality:* Hair soft; skin, mellow, loose, medium thickness; bone, clean.

*Head:* To impress at once the Nubian characteristics.

*Head of Bucks:* Masculine; nose, Roman; ears, heavy, large, and drooping.

*Neck of Bucks:* Muscular, short, and a tendency to loose skin or dewlap at throat.

*Head of Does:* Much finer than the buck, but not weak; ears large and drooping.

*Neck of Does:* Fine; skin loose at throat.

*Body:* Well proportioned, with shoulders so placed as to give a deep wide chest and full heart-girth; strong straight back; ribs well sprung and wide apart; hips wide apart and level; rump, long, wide; pin-bones, high, wide apart.

*Legs:* Clean, strong; upright pasterns.

*Size:* When fully mature and in good breeding condition, bucks should weigh not less than 175 to 200 lb.; does, 140 to 170 lb.

| | Points. |
|---|---|
| (3.) *Udder* | 35 |
| Attached, high behind and full; flexible; halves even and free from fleshiness; teats, large, evenly placed, sloping slightly forward; milk-veins, large, long, tortuous; large milk-wells. | |
| (4.) *Marking and Skin* | 20 |
| *Colour:* Varied, but must be free from marking indicating Swiss blood. | |
| *Hair:* Medium, fine, and short; heavier on bucks. | |
| *Skin:* Clear and bright. | |
| Total score | 100 |

*Disqualifications:* Such lack of type as to render it doubtful to a breeder what the breed is.

Head of Nubian doe, "Inkyo La Cheenah." Courtesy of "Goat World."

## BUYING A GOAT.

If the intending buyer knows nothing about a goat, he should either deal only with a reliable breeder or get a friend who has had experience to accompany him. It is always advisable to see the goat you are going to buy. There are more bad goats than good ones in the country at present, and people are taking advantage of

the present demand to unload worthless goats at high prices on unsuspecting buyers. Remember, in buying a milk goat, that it is milk you want, and, if possible, see the goat milked once or twice, bearing in mind the length of time she has been milked and the number of times she has kidded; a goat is not at her best till she has had her third kid, when she will frequently double the yield she gave at her first kidding.

Goats after freshening will usually increase in milk for the first month or two, and thereafter will gradually decrease, until at nine or ten months after kidding she will dry up. Occasionally, however, there are goats which refuse to dry up, and there is a case on record in British Columbia of a goat which milked steadily for twenty-six months.

A good milking goat should have a large, well-shaped, and soft, pliable udder, with reasonably long teats set wide apart and pointing outwards. The udder should be globular in shape and carried well forward, and when empty should shrink to small size and be easily crumpled in the hand. Pendulous udders of little width are inconvenient to milk and cumbersome to the goat, and sometimes are actually

Imported Nubian buck, "Harborough Volunteer." Courtesy of D. Mowat, McKay, B.C.

repulsive in appearance. Do not judge the udder by looks alone, because a large udder may be fleshy and have little room for milk. If the goat is not in milk, the buyer must depend on the seller's statements, though examination of the goat's dam or sisters should give some indication of what she may be expected to do.

A good milk goat should have a large and capacious stomach, with arched and well-sprung ribs, to allow for abundance of feed. As in good dairy cows, the neck should be long and thin, the withers sharp, with well-developed spine, high rump, thin thighs, and fine bone, together with soft skin and fine coat.

Beginners are frequently deceived into buying a goat said to be in kid, but which does not kid, because goats that have liberal feed blow themselves out to such an extent that they seem to be pregnant. Buyers should bear in mind that it is difficult to say whether a goat is with kid or not until about six weeks before she is due, when the hard head of the kid may be felt by pressing the fingers against the goat's flanks.

When buying a pure-bred goat, the buyer should get an assurance from the seller that the goat is registered as a pure-bred, and the seller should have the goat transferred to the buyer's name on the books of the Canadian National Live Stock Records. The same applies to the Foundation Stock class.

## IMPORTATION FROM U.S.A.

On goats registered in the American Milch Goat Record Association as of pure breeding there is no duty payable on importation into Canada. On goats which are not pure-bred, even though registered in the A.M.G.R.A., there is a duty payable of 25 per cent., and also, at present, an extra war tax of 7½ per cent.

When buying pure-bred goats in the United States, the buyer should get the seller to have the animal transferred on the books of the A.M.G.R.A. to his name, and on receipt of the registration certificate and completed transfer he should send it to the Accountant of the National Live Stock Records at Ottawa, and ask for an import certificate, enclosing 50 cents for transfer of registration to Canadian records and 10 cents for the import certificate. His papers will be returned to him together

Saanen buck "Prince William Tell," out of 6½-quart (American) doe. Courtesy R. R. Glahn.

with the import certificate, which is necessary before animals can be allowed in free of duty. As the importer will have to pay duty if he has not the necessary import certificate, he should arrange to have everything ready so that he can produce same when the animal arrives.

In the case of pure-bred stock also, the shipper's invoice should bear on its face the following certificate: "I hereby certify that the above-mentioned ..... ..... is [*or* are] of pure breeding, and is [*or* are] to be used for the improvement of stock.

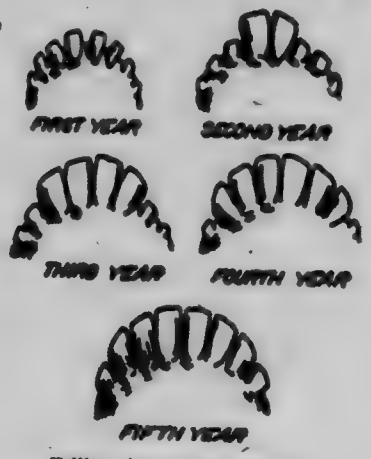
"*(Shipper's signature.)* ..... "

Three copies of the invoice duly signed by the shipper should be sent ahead of the shipment, as the Customs authorities may make trouble if they are not produced and charge extra 25 per cent. on the duty.

Further, all sheep and goats have to be inspected on arrival, and may be detained, isolated, dipped, or otherwise treated if the Inspector has reason to believe or suspect that the animals are affected with or have been exposed to contagious or infectious disease.

## TELLING THE AGE BY THE TEETH.

Goats, like sheep and cattle, have no front teeth on the upper jaw—simply a hard pad of gristle. They have eight front teeth on the lower jaw, and under one year of age these are "sucking-teeth," small and sharp. At about one year the centre pair drop out, and are replaced by two larger permanent teeth. Between the twentieth and twenty-fourth month two more large teeth appear, one on each side of the first pair. In the third year two more come in, and in the fourth year the




Telling the age by the teeth.

last pair—one at each corner. At seven or eight years some of these teeth may become broken or fall out, or may be knocked out by accident before that time.

Frequently, however, goats' teeth develop much more quickly than shown above, and many have their full mouth between the third and fourth year.

## HOUSING.

Goats do not require anything elaborate in the way of housing, but the buildings should be snug and comfortable, free from draughts and rain-proof, yet light and well ventilated. During the spring, summer, and fall, in the Coast District at least, the goats will probably prefer to remain outdoors altogether, but in winter they should be kept indoors at night, and during the day also unless the weather is fine. The goats should be able to get into their house or under shelter during rain. For a few goats the simplest style of building is a plain shed-roof house, something like a poultry colony house. There should be ample room for the attendant to move around. Too many people think they can jam goats into small houses fit only for rabbits. A house 10 x 8 feet, with a height of 6 feet at the back and 7 or 8 feet in front, is ample for four or five goats, and will allow room also for a loose-box or feed storage. Three goats can be comfortably kept in a house 6 x 8 feet.

There are several different methods of fixing the goats in the house all of which have their good and bad points. The main thing is to give the goat all possible comfort and yet avoid waste in feeding hay, etc. Stalls with a manger and feed-rack above are largely used. These stalls need be no more than 20 to 24 inches wide, and the goat should be tied by a short chain to the manger, the chain being free to slip up and down an iron rod or strong wire fixed vertically. Instead of the manger and rack some breeders have boxes about 30 inches high by about 20 inches square

fixed at the head of the stalls. In the front of the box and well up, a circular hole is cut large enough to permit of entry into the box of the goat's head. From this hole downwards to about 9 inches from the bottom of the box is cut a strip 4 inches wide. When feeding, the goat inserts its head in the box by reaching up and putting its head through the circular hole, after which it slides its neck down the 4-inch slot and feeds with its head inside the box, thereby avoiding the waste of hay by tossing it about and trampling on it.

Another plan is to use stanchions the same as are used in all modern cow-barns, adapting the fittings to the smaller animals. The writer has tried this on a small scale and is inclined to favour it, as it undoubtedly prevents waste of feed and is convenient for the attendant, besides requiring no partitions between the goats, and thereby allowing more room to move around and clean out, etc.

The goat should rest on a false floor made of slats to permit of excrement dropping through to the floor, and the floor should be slightly sloped so as to drain into a gutter which can be carried outside the house. Floors should be tarred to make them water-proof. The slatted false floor need not be the clumsy and heavy affair that is usually recommended, as the writer has found that the usual 1½-inch

Toggenburg does. Courtesy of G. H. S. Cowell, Port Alberni, B.C.

laths, laid ¾ inch apart across 1 x 3 inch, spaced 12 inches apart, are amply strong enough. Straw or other litter may be used, but goats frequently scrape it away, and personally I have not found it necessary and the goats keep cleaner without it.

## FEEDING.

In feeding, the nature of the goat is to browse, as distinguished from that of sheep, which is to graze, and goats must have variety. They do not thrive so well when kept on one feed for any length of time, preferring, when possible, to nibble here and there at as many varieties of vegetation as they can. Leaves of all kinds, broom, salal, wild berries, and practically all kinds of brush are relished by them, as well as grass and most weeds; they will also eat the young shoots of bracken and of coniferous trees, and in winter will eat freely of the latter, and bark the young branches as well.

Goats may either be allowed their liberty in a fenced brush pasture or tethered out, but in the latter case they should be moved to a fresh spot twice during the day,

and shade should be provided for them on hot days. They may also be kept in a yard, as is frequently done in Europe, and fed garden waste and weeds, grass, orchard prunings, kitchen waste, etc. During summer they may be fed some grain, but, if liberally fed otherwise, little or no grain is necessary. In winter, however, the owner must provide more feed, especially if the goats are milking, and care should be taken to see that the feed is not soiled and that the feeding-utensils are clean. Contrary to common belief, goats are dainty and particular feeders and will rarely touch food that has been allowed to fall on the ground or which other goats have breathed on. Succulence should be the desideratum in feeding for milk in winter, and carrots are probably the best and handiest roots to supply this. Failing these, potatoes, turnips, mangels, parsnips, kale, etc., are almost as good; potatoes, however, are more of a fattening nature.

Hay should also be fed in winter, clover, alfalfa, or prairie-hay being the most nourishing, but dried leaves or brush will provide a change.

Grain may be supplied in the form of oats, cracked corn or cornmeal, bran, shorts, dried brewer's grains, etc., with such concentrates as linseed, cocoanut, or soy-bean meal. Some prefer to feed moist mashes, but it is a question if this is any advantage, and feeding dry saves trouble. As to quantities to feed, two to three handfuls of grain with one of bran, or occasionally linseed or other meal, twice a day, is ample for a goat in milk which is receiving hay and roots. Mix the feeds differently as much as possible to give variety, preserving a proper proportion, of course, between the different elements required for milk production and bodily nourishment.

Fresh, clean water should be within reach or offered twice daily, and rock salt should always be available.

## TETHERING.

Where it is impossible to allow goats to run at large or within an enclosure, they should be tethered, and some claim they do better thus, because they are, as it were, tied down to their feed and do not waste time and energy wandering around. Probably the safest tether is a light cow-chain, not less than 20 feet long, and provided with swivels at each end and in the middle to prevent twisting. Care should be taken to see that the goat is not tethered where the chain is likely to get tangled around roots and brush, because it does not take long for a goat to get hopelessly tied up in such a place, and many have been strangled in this way. The goat should be visited twice or thrice during the day to see that it is all right.

## FENCING.

Contrary to popular belief, milk goats are unable to clear a 6-foot fence at a bound, and a 4- to 5-foot fence is sufficient to restrain them, but it must be a tight, upright fence; chicken-wire or light poultry-fencing is good enough, except for bucks, or a fence made of rails laid horizontally between uprights. There should not be any stumps or rocks near the fence from which the goats could take off. A snake fence is no good, because it affords too many footholds for the goat to climb over.

## GENERAL CARE.

People who are not prepared to give their goats some little attention had better not keep them. When they are kept in an artificial or, to them, unnatural state, it is necessary to spend a little time on them to keep them in good condition. They should be groomed regularly, daily if possible, with a currycomb or dandy-brush, and their hooves should be trimmed once a month or so; the overgrowing hoof should be cut down till almost level with the pad; a knife or pruning-shears will do for this. This is such a simple thing to do that there is no excuse for the way in which it is neglected by the majority of goat-keepers. If not cut back the overgrowing hoof causes lameness and foot-rot.

Twice yearly, in spring and fall, goats should be dipped in some good sheep-dip to kill lice. If dipping is impracticable, the dip should be applied to the coat and

rubbed into the roots of the hair; this should only be done, of course, in seasonable weather. In spring some goats look better if the winter's growth of hair is trimmed off.

## DEHORNING.

This in the case of mature goats is better left undone, as it is painful for both animal and man. In kids, however, when it is more properly termed "disbudding," it is well to stop the growth of horns by applying caustic potash to the incipient horns during the first day or two after birth. Clip the hair off the top of the head and you will see little smooth spots where the horns will come; rub grease or lard into the skin around the horn-bud, leaving the latter and a space around it about the size of a 10-cent piece untouched; it will also be as well to ... a ring of grease round the top of the clipped head to prevent the caustic running and burning the skin and possibly the eyes. Moisten the stick of caustic on a damp rag and rub it on the horn-bud till the skin is broken; rub a little more and gradually widen the circle till about the size of a 10-cent piece. This should prevent the horns growing; but, if not, a second application about three weeks later will usually do the trick.

## BREEDING.

### THE BUCK.

The proper handling of the buck is one of the problems of goat-keeping, and one which the man who has only a few goats and small space had better leave to the larger breeders.

Young imported Nubian buck, "Burnaby Trafford," eight months. Courtesy of D. Mowat, McKay, B.C.

We have not yet reached the stage of the odourless buck, though some are much less odorous than others, and much can be done to lessen any objection in this respect by proper care and treatment.

The buck should be kept apart from the does to avoid tainting the milk, and exciting both him and the does unduly when it is not desired to breed them. If at all possible, he should have a house and run to himself and have a wether as stable mate for company.

Many people starting in to keep goats or keeping them on a small scale make the mistake of trying to keep their own billy. They had much better get the service of a good billy from a reliable breeder when needed, and thereby save themselves much trouble and inconvenience.

### MATING.

The natural mating season is during the cool weather, from about September till April; it is usually difficult to get does to breed in summer, but if the buck is allowed to run with the doe to be bred it is sometimes successful.

Does are usually mated in fall so that they will kid in spring, and are not, as a rule, bred more than once a year; it is permissible, however, to breed thrice in two years—i.e., every eight months—if it can be managed. As the period of gestation is five months, the doe has three months' rest. It is not advisable to breed twice yearly, as is sometimes done.

Kids feeding. Courtesy of "Goat World."

The signs of heat in a doe are an enlarged and inflamed vulva with a discharge, and frequent and agitated shaking of the tail and sometimes persistent bleating. A doe comes in heat about every three weeks, and it is usual to take the doe to the buck; one service should be sufficient.

It is not recommended to breed a doe until about eighteen months old, unless she is very well grown. Most of the goats in British Columbia are undersized, chiefly through too early mating and improper raising.

### KIDDING.

A few days before a doe is due to kid she should be kept in a loose-box if possible and fed more sparingly; a bran-mash should be given once a day for a few days. Goats usually kid without trouble, and after kidding should have some warm oatmeal gruel, made by pouring boiling water on two handfuls of oatmeal. They should also have a warm bran-mash afterwards and plenty of slightly warmed water to drink. The kids, generally two, are on their feet almost immediately, and if it is not desired to raise them on the doe they should be taken away and put in a

box with straw till they dry off, after which the doe should be milked and the kids fed out of a bottle or taught to drink out of a pan. Some people prefer to leave the kids with the mother for three or four days, but it is harder then to get them to take milk from a bottle or pan. In feeding kids by the bottle, the best plan is to use the Biggin teat, or similar style, which fits over the usual milk-bottle. The hole in the teat should be enlarged by passing through it a piece of red-hot wire about the size of a fine knitting-needle. For the first week ½ pint should be fed four or five times daily; after this three times a day will do, gradually increasing the quantity. After the second or third week, oatmeal water or calf-meal and water, warmed, may take the place of part of the milk if the latter is required for personal use. Kids soon begin to nibble at bush and hay, and after the third week should also have bran or shorts where they can get it without interference from older goats; they are usually weaned when six to eight weeks old. If they have been allowed to run with

Young Toggenburg buck "Don Hermes," eight months.
Courtesy of H. W. Barber, McKay, B.C.

their dam it is difficult to wean them, as goats become very much attached to their offspring and will allow them to suck until full-grown. Kids which it is intended to keep for breeding should be allowed milk as long as possible. It does not pay to raise buck kids which are not of pure breeding and from good milking stock, as they take more in milk before weaning than they are worth in meat for a long time after.

## MILKING.

As goats have usually smaller teats than cows, they are usually milked by stripping the teat between the thumb and forefinger. Absolute cleanliness, of course, is essential when milking. The goat should be milked dry each time, because she will soon decrease in yield if milk is left in the udder, which should be well massaged to get the last drop; the last-drawn milk is the richest. Milking should be done

twice daily at regular hours, and thrice if the goat is a heavy milker. To avoid milking in an inconvenient position, goats are usually milked on a trestle or bench, about 24 or 30 inches high; they will soon learn to mount this stand if fed at the same time.

Goat's milk has been known for centuries as an ideal food for infants and invalids, because of its easy digestibility, and many hospitals and sanatoriums keep herds to supply milk for their patients. Though rich in butter-fat, generally averaging about 5 per cent., the milk does not form heavy curds in the stomach; the curd from the goat's milk is light and flaky and digests in about one-third the time of cow's milk.

## BUTTER.

Butter made from goat's milk is white and soft and does not usually keep as well as that from cow's milk. Set the milk in a shallow pan in a cool place as soon as milked; at least twelve hours later the pan should be placed on the top of the stove and the milk warmed till the surface is wrinkled, when the pan should be put in a cool place again for about a day and the cream then taken off. Some vary this method by skimming the milk twice, once each day. The cream should not be kept longer than four days before churning. The churning can be done in an ordinary glass fruit-jar, or in one of the small glass churns.

## CHEESE.

Many kinds of goats' cheese are made in Europe, but most of them are not very easily made.

### Soft Cheese.

The following is a simple recipe: To 1 quart of milk, fresh and warm, add half a teaspoonful of rennet, and stir well. Let stand twelve hours. Then cut the curd and hang up in cheese-cloth to drain for twenty-four hours. Add salt, and slightly press in a mould for one or two days, turning it once. The cheese can then be used. Rennet can be bought in tablet form and dissolved as required.

Roncese's recipe is as follows: The milk is warmed in a kettle to 90° Fahr., and while being stirred evenly the rennet is added as in the last recipe. The whey is then strained off. When after several hours the curd has become dry, salt and caraway-seed are intimately mixed with it, and it is made into small cheeses. These are placed on racks in the cellar to dry, and are turned daily. In about fourteen days they are ripe and ready for use.

## MEAT.

Roast kid has always been considered a dish for epicures, and by many is considered superior to roast lamb. Bucks intended for killing should be castrated before they are three weeks old, and the meat will be found equal to any mutton. Older bucks which it is desired to kill for meat may be castrated about three months previously, and will be found to be free from any objectionable odour or taste when killed.

Although there is a prejudice against goat-meat amongst those who have not eaten it, much of it is sold without any one being any the wiser. It is being sold more and more in the States, the large markets now paying good prices and taking all they can get.

## PRICES OF GOATS.

Common does, giving about 2 quarts when fresh, are worth from $30 up, but animals with any breeding in them and heavier milkers are worth much more. Pure-bred stock of good milking quality sells at $75 for five-month-old kids; such animals, however, are very scarce at present in British Columbia.

## AILMENTS.

Though goats are, on the whole, generally free from disease, they occasionally have their troubles, and the following table of diseases, symptoms, and treatment should prove useful:—

| Ailment. | Symptoms. | Treatment. |
|---|---|---|
| Colds ..... | Running at nose and eyes; shivering; staring coat | Warm housing; blanketing; warm gruel or bran-mashes. |
| Bronchitis ..... | Similar to above, with quick breathing and dry cough, becoming looser until mucous is thrown up | As above; give inhalations of turpentine twice or thrice daily, by pouring turpentine over a little sawdust in bottom of a bucket, adding boiling water and holding goat's head in the steam. |
| Constipation ..... | .... | About an ounce of Epsom salts in a pint of warm water, and warm bran-mashes. |
| Diarrhœa ..... | .... | Administer purgative of Epsom salts; if diarrhœa continues, give ¼ oz. of prepared chalk in pint of warm water or milk every other day. |
| Dysentery ..... | Thin, slimy, offensive discharges; fever; no appetite; goat becomes weakened and emaciated | Administer purgative and feed on good hay or gruel. Give chalk as above, and also 5 grains sulphate of iron twice daily in water. |
| Internal inflammation .. | .... | (*See* veterinarian.) |
| Inflammation of udder .. | Udder swollen, hot and painful to touch | Rub udder with carbolic oil; milk carefully and well; give 2 oz. Epsom salts every other day. Apply hot fomentations if udder hard, and dry thoroughly. If kid sucking, take it away and feed by hand. |
| Sore teats ..... | .... | Wounds or scratches on udder or teats should be washed and dressed with carbolised vaseline. |
| Lumps in teats ..... | Due to a clot of milk, or sometimes matter | Soften with hot fomentation and work between fingers. |

## ANGORA GOATS.

### ANGORAS AND MILK GOATS DISTINGUISHED.

Goats may be divided into two classes. The mohair-bearing goats, such as the Angora and Cashmere, comprise one class, and the other class includes the many different breeds of milk goats. Some people confuse these two classes. Milk goats are useful for little else than the production of milk; their coat of hair has little value. The Angora is the breed that produces the valuable mohair, and is also largely used on this continent as a brush-killer. As many as 400,000 goats of this breed are annually sold for meat in the United States. But the Angora is not used for milk production, and is never classed as a milk goat.

Of Angoras and milk goats there are all grades from pure-breds to nondescripts. Among milk goats an animal of obscure breeding may possibly be a good milker. On the other hand, for the production of high-class mohair it is necessary to have an Angora goat of pure or almost pure breeding.

### DESCRIPTION OF THE ANGORA GOAT.

A pure-bred Angora is a very beautiful animal, with its pure white fleece of silky hair hanging in long curly ringlets. Sometimes, as with sheep, a black animal appears. Both sexes are horned, and the ears hang down like those of a lop-eared rabbit. The body is generally very symmetrical, and the fleece should possess a high lustre; the more closely curled it is, the better.

### ANGORA GOATS VERSUS SHEEP.

It should be pointed out that where conditions are suitable for sheep they will prove much more profitable than Angoras. Wherever grass is plentiful, sheep should be kept; but where brush forms the chief food, goats will do better than sheep.

Young kids are harder to rear than lambs, and well-bred Angoras seldom have twins. Sheep often rear twins, and sometimes triplets. Sheep's mutton is at the present time about 3 cents per pound dearer than Angora mutton, and the income from this source is naturally much greater in the case of sheep.

The average Angora fleece weighs about 3 lb.—less than the average sheep's fleece. So that, although mohair is worth more per pound than wool, the fleece brings on the average not much more than a wool fleece.

It will be readily seen, therefore, that cultivated farms are the place for sheep, while Angoras find their place on wild and uncultivated brush land.

### ANGORA GOATS AS BRUSH-KILLERS.

In many parts of the United States Angoras are used primarily for keeping down brushwood growth. On logged-off lands the young growth starts up very quickly, and soon the land is little better than before for agricultural purposes. If, however, a sufficient number of Angora goats are turned on to the brush, they will kill off all but the largest saplings by persistent browsing on the foliage and bark, and convert the useless brush into mohair and mutton—or venison, as some prefer to call it.

At the same time the land will be enriched by their droppings, and in the moist sections grass and clover will come in to take the place of the brush. Goats will not kill out grass, as sheep are apt to do if the grass is limited. Goats are browsers by nature, while sheep are grazers.

Goats are in a class by themselves as weed and brush destroyers. They will eat most of the common weeds, including thistles, and their diet of browse includes the following: Oak, cedar, buck-brush, briers, elders, grape-vine, ash, sycamore, basswood, hickory, hazel, willow, maple, rose-bush, crab-apple, fir, pine, cascara, cherry, alder, salal, poplar, elm, wild plum, and sage-brush.

Angora doe carrying fleece of nine months' growth.

Goats prefer almost any kind of brush to grass. Nevertheless they will subsist on grass, and in some parts of the United States large flocks are thus fed on the range. The flavour of venison is imparted to the mutton by the browse eaten. Grass-fed Angora mutton does not have this flavour.

Ground inside fence cleared of brush by Angoras.

### NUMBER OF GOATS PER ACRE.

There are millions of acres unsuitable for cultivation on which there is no object in killing the brush. On this class of land Angoras can be pastured year after year, if the goats are not too thick on the ground.

For cleaning up brush land for other agricultural purposes it will take from three to five head per acre from two to four years. No hard-and-fast rule can be given, as the character of brush land varies.

### POISONOUS PLANTS.

It has been said that Angoras can eat all kinds of poisonous plants. It is true that they can do this without ill effects in many cases. The reason is that they have the habit of browsing a little bit here and another there, so that the quantity eaten of any one plant is small. There are records, however, of hungry goats turned on to a patch of laurel being poisoned.

Large greenbriers are objectionable, in that goats sometimes get caught by the fleece, becoming entangled in the strong thorns and are unable to get free.

### MOHAIR.

Mohair is the fine, long, outer coat of the Angora; but there is sometimes more or less of a coarse hair called kemp. Kemp is similar to the hair on the common goat. It is lustreless and will not take the dye like mohair. It has to be combed out before spinning, and hence depreciates the value of a fleece in proportion to the quantity present. The average shrinkage from this cause in the United States is about 15 per cent. The purest-blooded Angoras have little or no kemp in their fleece. The ideal fleece should possess length, fineness, lustre, strength of fibre, freedom from kemp, and should be closely curled.

The fleece from a first cross between an Angora buck and a common nanny produces a very poor fleece. The fleece of the second cross is better, and that of the fourth and fifth crosses very good, provided first-class bucks are used.

#### WEIGHT OF FLEECE AND PRICE PER POUND.

C. P. Bailey, of California, says: "Half-bred goats scarcely shear enough to pay for shearing; ¾-bred goats shear 1 to 1½ lb., worth 15 to 20 cents; ⅞-bred goats shear 2 to 3 lb., worth (1915) 20 to 30 cents; 15/16-bred goats shear 3 to 5 lb., worth 30 to 40 cents per pound."

The average Oregon fleece is perhaps the heaviest in the States, and is about 3¾ lb. in weight. It is also of the best quality, longer in staple, and brings a much higher price than those from the Southern States, where the goats are often sheared twice a year. The mohair from Polk County, Oregon, has sold for from 42 to 55 cents per pound for the past few years. The Northwest Angora Goat Association reports an average cash production of about $1.75 per head. A twelve-months' growth of fleece averages about 10 inches in length, but superior flocks may produce a 15- or 20-inch staple in a year.

The fleece of "Romeo," a prize-winning buck, weighed 18 lb., measured over 20 inches in length, and sold for $115, but this is a very exceptional case.

The best mohair comes from the kids, the young wethers, and the does. As the animal becomes aged the fleece becomes coarser.

The price of mohair has been steadily rising of late years. This is partly due to increasing quality, but mostly to new uses being found for mohair.

U.S.A. MOHAIR PRICES, MARCH, 1915.

| | |
|---|---|
| Best combing | 36c. to 38c. |
| Good combing | 34c. to 35c. |
| Ordinary combing | 30c. to 32c. |
| Best carding | 33c. to 34c. |
| Good carding | 28c. to 30c. |
| Ordinary carding | 25c to 26c. |

Types of mohair. Best quality on the left.

Fine quality Angoras and kids. Also shows one type of suitable fence.

### USES OF MOHAIR.

These are increasing every year. The best mohair is used either pure or in connection with wool, silk, linen or cariton, in the making of house furnishings and ladies' goods, brilliantines, linings, braid, plushes, shawls, and dress-goods. Extra long mohair goes to make blankets, lap-robes, rugs, and carpets. Automobile-tops are also made from mohair.

Mohair is an exceedingly durable fibre, and blankets made from it have been known to last a lifetime.

### THE SKINS.

Angora skins are finer than the skin of the common goat, of which many thousands are imported for leather. Angora hides of the best quality are made into morocco leather for books, while the poorer quality make workmen's gloves. Angora pelts are in demand for robes for baby-carriages and children's cloaks and for house-rugs. They are worth from $2 to $3 each.

### MARKETS FOR MOHAIR.

Owing to lack of supply, there is no recognised market for mohair in Canada. The nearest large market is at Portland, Oregon. There are several large commission houses in Portland, and one mill which manufactures mohair. The other large mohair-mills are in the Eastern States.

The principal market on this continent is New York, but the marketing centre of the world for mohair is Bradford, England.

Should a Canadian-grown supply of mohair become available, the textile-mills on this side of the line would no doubt make provision for manufacturing it.

## ANGORA MUTTON.

There is a widespread prejudice against the use of goat's meat, and for that reason most of the Angora mutton sold in the States has been passed over the counter as sheep's mutton, or lamb. The flesh of young, well-fed goats is delicious, and that of older animals, such as wethers and does in good condition, is very good. Kansas City is the leading goat market in America. Two classes of goats are offered for sale, called "fat" and "brushers." The fat class are those in condition for slaughtering. The average weight of goats at Kansas City is 68 lb. The prices quoted in March, 1915, were 4½ to 5 cents per pound for good fat goats and 4½ cents for young brushers, live weight.

Angora mutton, if properly fed, has no objectionable flavour, unless the flavour of venison is objectionable. It is, however, lacking in fat, and should be well basted or cooked with a few slices of fat bacon.

## ADAPTABILITY OF ANGORAS.

In the high altitudes of Turkey and South Africa, where Angoras thrive, the ranges in temperature are extreme. These goats can stand extreme cold, provided it is dry. In Montana the heavy snowfall does not hurt the goats so long as they have a dry place to spend the night. A flock has been reported doing well on Ukamak Island, Alaska.

Wet and swampy land is unsuitable for Angoras. Well-drained land and pure water they must have to do well. They delight in climbing, and prefer steep and rocky hillsides to the level ground. In such situations the rocks serve to keep their feet trimmed to the natural shape, preventing foot-rot. Angoras much dislike wet and cannot stand damp conditions.

On the whole, this Province would seem to be well suited to Angoras, especially the higher altitudes of the Interior.

The climate of the Willamette Valley in Oregon is similar to that of our Coast districts, and that valley has become well known for the number of its goats and the quality of mohair grown.

## CARE OF ANGORAS.

### FENCING.

Goats cannot stand close confinement and are impatient of restraint. It takes a well-built fence to turn them. The ordinary worm fence will not do, as they easily find places to climb up. They do not jump clean over a fence, but seek for some hole to climb up or crawl through. A woven-wire or board fence 4½ feet high or a straight-rail fence 5½ feet high will turn goats.

### SHELTER AND PENS.

Goats are better penned up at night. For this purpose they should have a dry yard to themselves, with a roomy shed open on the two sides away from the prevailing winds. Dryness both underfoot and overhead is very important to ward off rheumatism and to keep their fleece clean. They need lots of shed-room and fresh

Angora does leaving the kidding-pen, showing bridge to keep young kids in.

air. In stormy and wet weather they should have access to the shed, and will be sure to run in out of the rain. Goats will find their way home to shelter at night by themselves usually.

### FEEDING.

Leaves in summer and soft twigs in winter are the natural food of the goat, but in these northern latitudes Angoras will have to be fed during the winter. Oat-straw and clover or alfalfa hay are good. They will require very little grain or water. The grain should be fed before and after kidding. The water and hay supplied must be perfectly clean and unsoiled by trampling, etc., or these fastidious animals will refuse it. Winter feeding is cheapened by cutting down high trees for the goats to browse on.

Goats require access to a lump of rock salt at all times, unless they can get salt water, as on the Coast.

## KIDDING AND THE KIDS.

Angoras have generally only one kid at a birth. Although the mature goat is so hardy, it is important to note that the new-born kids are very delicate. They are much more delicate than lambs for the first few weeks.

The does carry their young five months, and the proper time for the kids to arrive is when the trees and shrubs start to leaf out in spring. This provides succulent and milk-producing food for the doe, and the warm weather favours the new-born kid.

Care should be taken to see that each doe owns her kid, and that the young ones suckle. The kids should not be allowed to roam about with their mothers until they are strong enough. Some raisers allow them to go out to pasture with their mothers when they can jump over a 12-inch board nailed across the doorway of the pen. Others use a bridge for the does to gain access to the kids' pen.

Buck kids not wanted for breeding should be castrated at two weeks old.

Angora wethers make very good mutton.

## BREEDING.

Although goats of both sexes will breed at six months of age, it is the opinion of breeders that they should not be allowed to do so until sixteen or eighteen months. One buck to forty does is about the average. Mating should be done late in the fall. The goats are supposed to be in their prime between two and six years of age. The average lifetime is about ten years.

## SHEARING.

Shearing-time will be in April in this Province. A good hand-power machine can be got for about $12. The fleeces should be rolled up inside out without tying, and packed in sacks. Goats are not as quiet to handle as sheep, and a combined trough and table has been found handy to place them on while shearing.

Shearing-table.

## DIPPING.

Dipping in some reliable sheep-dip should be done every spring and fall to rid the goats of lice which are likely to be present. Lousy goats will certainly not thrive.

## STARTING A FLOCK OF ANGORAS.

At the present time intending buyers may find it necessary to go to the Western States to buy Angoras. They can be bought there at from $6 to $10 per head, the price varying according to the breeding. Good bucks cost from $25 up to $100. Much larger prices are paid for specially good individuals.

The best way for a beginner is to invest in a few good animals, and gain experience in raising them as the flock increases.

## LETTERS FROM GOAT-BREEDERS.

The names of the writers of the letters published have been withheld in order to prevent the annoyance of too many inquiries.

Interested persons may obtain a list of breeders of Angoras and milch goats on application to the Live Stock Branch, Victoria, B.C.

SARDIS, B.C.

In answer to yours, I would say the Angora goat with me has been a failure, due, I think, to some local cause that gave the kids enlarged glands, and they came so weak that I could not get them to nurse. Three years ago I raised six kids. Last year I had twenty kids and did not raise any. They were so weak they could not stand up or nurse.

Lost all the kids this year also. They bred well if I could only raise the young.

The goats are splendid for keeping down the second growth in a slashing, for killing Scotch-cap, etc.

There appears to be a prejudice against goat-flesh as meat in this vicinity. For myself, I like it. A goat will dress out about half what a sheep will. Quite a number have eaten goat-meat at my table and have taken it for lamb. The meat requires more cooking, also special care in cooking, or it will be dry and tough.

AGASSIZ, B.C.

RE ANGORA GOATS AND THEIR ABILITY TO ERADICATE BRUSH.

I have pleasure in informing you that I have been using a flock of thirty Angora goats for the last two years, and am convinced that they have solved the problem of preventing the growth of brush, and thereby accelerating the rotting of hardwood stumps after the forest has been cut down, as they prefer leaves and sprouts of trees to grass for food. Previously I used sheep for this purpose, but they prefer grass to leaves, and I found I had to spray the leaves of vine-maple, alder, and other varieties with brine in order to induce them to do good work. Of course, from a mutton point of view, the sheep are the most profitable. I obtained my goats directly from Oregon, which I believe is the best place to obtain them, the price being about $6 each. I believe mine are pure-bred, but have not taken the trouble to look up pedigrees. My goats have been working on the Fraser alluvial lands, being out in all kinds of weather. There has been no trouble with them except from dogs. They are easily fenced in as long as there are no holes for them to crawl through. A legal fence is quite sufficient to restrain them.

The principal drawback to goats seems to be the difficulty in rearing the young during the first few weeks. They are frequently unable to stand when born, and very weak and unable to find their mother's milk for some days. If you are getting out a pamphlet, I would advise that you look carefully into this matter of rearing the young, and get pointers from the breeders across the line. I think the nannies should be fed upon grain some time before having their kids. I have been told that farmers in South Africa give them buttermilk to drink for a short time before dropping their kids.

I think their general use in this Province will depend in a great measure in overcoming the difficulty I have mentioned. With this exception, I find them quite hardy, although I believe they are native of warm, dry climate.

With regard to the rearing of the young kids, a letter addressed to a well-known Angora breeder of Oregon elicited the following reply:—

In reply to your favour, we will say that there are two extremes to be avoided in the rearing of kids—namely, extreme poverty, but more often too much feed, causing the does to take too little exercise. This is the main cause of the swollen glands or goitre. We have trouble with it here in the Willamette Valley, especially after the grass becomes flush in April, the does requiring little exercise to get what feed they want.

Goitre can be cured by rubbing in H.H.H. Horse Liniment on the swollen gland on the kids that are able to suckle, but the weaker ones are almost impossible to save.

Sheep are affected the same way here to a certain extent, but if there is feed enough for either kind of stock when they get plenty of exercise in getting it, there will be little trouble with the young. If your winter and spring time are rainy and little snow on the Lower Mainland, the does should drop their kids just before the feed becomes plentiful. We have no hesitation about offering this advice, as we have had lots of experience in this line, and know just how it affects goats. However, in case of long-continued snow on the ground where the goats have to be fed, we are unable to say when it would be best to have them kid, though it would be hard to save them before the snow was off the ground, and in either case it would be almost necessary to have sheds or barns to save the kids, as they are generally easily chilled till they have sucked once; after that most of them will stand cold well, though rain and cold together is fatal to them if continued.

We do not look for any big rise in the price of mohair on account of the war, though it may come later if the war continues and the scarcity of wool helps to create a demand for mohair. The relative cheapness of mohair in regard to wool will probably create a demand through new uses that may be discovered for it. On account of its durability it seems it would be a good thing for army goods in connection with wool.

The following letter, clipped from a booklet issued by the American Angora Goat-breeders' Association, Kansas City, Missouri, is printed because climatic conditions in the Willamette Valley of Oregon are very similar to those of the Lower Mainland of British Columbia:—

## ANGORA GOATS IN OREGON.

### FEED AND CARE IN WINTER.

Angoras, like any other animals, like good feed, so that it is a good plan to fill the barn or shed with as good hay as can be secured. In the Willamette Valley we have clover or oats and vetch. It is well to start feeding hay early in the fall, so that the animals will be as well prepared for the winter as possible, as it is in the winter months that the most noticeable growth of mohair is produced. Care should be used in feeding the goats, so that the hay or seeds do not become mixed with the mohair.

Goats should be dipped in the fall, also the flock should be culled and all small or weak animals should be allowed to run and feed in a band by themselves. Trim the hoofs of all the goats in the herd, as this will tend to ward off "foot-rot," the most common disease of the winter months.

### SHELTER.

Select a well-drained spot on which to build the barn or shed. Provide a good roof and plenty of ventilation space, so that the shed will not become damp or musty, as goats like a dry place to camp. See that there is plenty of feeding space for all animals without overcrowding. We use movable racks 10 to 12 feet long and 30 inches wide; place in the centre of the sheds, so that the animals can feed from both sides. They can be taken outside when cleaning out the sheds.

### SHEARING AND GRADING.

In shearing, use a machine if possible, as they do far better work than is possible by hand, and are much easier on the animals. Grade your mohair as you shear; have your cotton sacks handy for each grade, and it is only the matter of a moment to sort it on the shearing-platform. We usually grade in this way: First and second kid; first and second doe; wether and buck and "tags." All coloured or stained and hair mixed with dirt and straw should go with "tags."

In Oregon we ship East or sell to the mill at Portland, Oregon. Mohair is shipped either in the bag or baled. If sending East it would be [illegible] to have it baled.

### CARE OF DOE AND KID.

In Western Oregon, in order to have any success with Angoras at kidding-time, the first thing necessary is a shed to keep the kid dry, as a kid will not stand any rain until it is several days old. We arrange our sheds so that the old goats can go back and forth as they wish, but nail a board across the doorway about a foot high, so that the kids cannot follow until they are about two weeks old, or older. The doe will go out and feed and come back to her kid as soon as she is satisfied.

It is a good idea not to have too many does in one flock, as they will sometimes lose track of their kids. Run the dry does in a separate band from those that have kids. It is well to have a small pen for any doe that has twins until she gets acquainted with them, as she is apt to disown one of them. Do the same with any doe that does not own her kid.

After kidding, the does run the brush pasture until the clover is large enough to pasture, then they are confined on the clover until about the first of June, when it is

time to let the clover grow up for seed. The flock is then taken back to brush pasture until the new-sown clover and rape is large enough to pasture. About the middle of July, if the clover and rape fields are enough advanced, the kids are weaned from the does and taken to the clover and rape fields for pasture. If we have plenty of this part of pasture, we give one of the fields to the yearling buck flock, which puts them in good shape for sale that fall. The does in the meantime are left in the brush pasture, where they can be utilized to eat the sprouts on the stumps. After harvest the does are placed on the stubble-fields, where they run as long as there is plenty of good picking. Along about the first of October or November the bucks are turned with the does, so as to have kids come from the first of March on.

Before taking the flocks to the barns for winter feeding the whole flock is dipped. We generally use Cooper's Dip, but there are some others just as good. Of course, when using a poisonous dip, one should be very careful that the goats do not swallow any of it. One advantage from using a poisonous dip is that you can kill both ticks and lice with one dipping.

### MARKETING WETHERS, DOES, ETC.

In Oregon wether goats at the present time being from $3 to $3.50 per head, according to quality, and does from $1.50 up. There has been a good demand, both from the butchers and also from outside points, for any surplus that accumulates.

### PROFITS IN RAISING GOATS.

This is a subject that depends on so many things that it is rather hard to bring it down to a matter with the raising of sheep, as they are handled in very much the same way. We find the goats superior to sheep in pasturing fields with woods, as they will eat everything down even. They are especially good in pasturing young clover, as they have not the weight of the large sheep of the Willamette Valley, and clean up all weeds and brush along the fence-rows, which add greatly to the looks of the fields.

In conclusion, will say that any one taking up the goat business must not expect the animals to do it all, as they will amply repay any extra efforts that are put forth in their behalf.

SATURNA ISLAND, B.C.

It is certainly true that I have owned Angoras for the last fifteen or twenty years, but it has been at long distance, as it were, as they live on the mountains and I see them at close quarters only when I happen to go up there.

I got them first with some sheep from the other side, as I understood at the time that they constituted themselves as leaders when placed with a flock of sheep, and having more brains than sheep, and not being as timid as sheep got to be, running more or less wild out on the range, they were an advantage to have with the sheep. They certainly would be the first to come out of the woods when one called the flock to be fed in winter.

But I found they became a nuisance in the way of getting into any field of grain or enclosed place one did not happen to want them in, as it seemed nothing to them to jump from a tree-stump on to the top of a fence-post, and stand with all four feet on the top of the post and from there jump down into the crop, or to walk along the top rail of a fence was nothing to them.

I finally had to chase them off into the mountains away from the cultivated land, and there they have stopped ever since.

They are not afraid of humans, but don't like dogs. They are very careless mothers, and the eagles here profit by this, and carry away most of the kids.

I understand, in places where they are raised for profit, the kids are kept in an enclosure surrounded by a 12-inch board, and when the kids are old and strong enough to jump over the board they are supposed to be capable of looking after themselves.

I find their hair comes off in large mats every year. One often finds mats of hair a pound or more in weight in the bush, and in the summer one often sees them walking along with a great mat, 2 feet or more long, trailing behind them.

As to the quality of the meat, that of a six-months-old kid is much more tender than that of a lamb of the same age, but whiter in appearance.

Twenty years ago large quantities of common goat crossed with Angora were shipped by settlers on the American islands to Bellingham and other Sound towns, and sold by butchers as mutton.

As to their eating brush, I have often seen them standing on their hind legs, with their front legs on the trunk of a tree, reaching up as high as they could for the leaves of both willow and arbutus. I have an idea they would do well on brush alone.

They seem quite content in winter on the mountains, and use the same places under overhanging rocks where it is dry to sleep in summer and winter.

As to the sale of the hair, I believe at one time it went to 90 cents a pound in California, and some people made fortunes with it. It was largely used to make the covers for seats in railroad-cars, as the wearing qualities of the material made from it

are very great. I have seen socks made by settlers from the hair which never wore out, but got so hard after a few years they usually threw them away; also blankets made from the hair by New Mexican Indians which held water, and were said to be old family heirlooms—anyway, they were as hard as a board.

My goats have been persistently shot by poachers from the other side, only four miles off, and that with eagles has kept them from increasing to any great extent.

This country is all suitable for sheep or goats, but it would be throwing money away to put any on most parts of the Mainland or Vancouver Island at present on account of the wolves and panthers. On the small outlying islands it would be a good enough venture. You hear people say the settlers should drive up their stock at night and put them in an enclosure. Any one who knows anything about the matter knows that is not practicable in the backwoods. Any bounty paid on a wolf or panther, even if it were $50 a head, is clear profit to the whole country.

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